



## Role of NLD Massage with or without Antibiotic Eye Drop in Congenital NLD Obstruction

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### Abstract

**Purpose:** To determine the success rate of sac massage for congenital nasolacrimal duct obstruction with (laevofloxacin 0.5 %) or without any antibiotics.

**Methods:** 72 eyes of 65 patients aged 2 to 8 months diagnosed with Congenital nld blockage were included and divided into 2 groups; group 1 included NLD massage with antibiotic eye drops (laevofloxacin 0.5 %) and group 2 included NLD massage without antibiotic eye drops. sac massage was done by parent of child and patient was followed up at regular intervals of 15 days each, up to four months. Successful procedure was documented as complete remission of symptoms in subsequent visits following the procedure.

**Results:** Overall success rate of sac massage was 87 % in group 1 and 62% in group 2.

**Conclusion:** sac massage immediately after instilling of antibiotic eye drop has higher success rate than only massage.

**Keyword:** Sac Massage, Nasolacrimal duct, CNLDO, Antibiotic eye drops.

### Introduction

Infants with epiphora and matting of lashes due to discharge are a common problem in pediatrics ophthalmology which is usually the result of a congenital abnormality of the lacrimal drainage system. In majority of the cases, it is due to a membranous obstruction at the lower end of the nasolacrimal duct. Congenital nasolacrimal duct obstruction (CNLDO) is a common condition affecting 20% of infants in their 1st year of life and occurs due to the failure of canalization of nasolacrimal duct. (usually at the distal end) Canalization of the NLD usually takes place at the end of six months of intrauterine life. However, it

may be delayed for several weeks or months after birth. It has been noted that approximately 40% of full term infants have obstruction at birth, however only 6 to 8% become symptomatic. Spontaneous resolution occurs in the majority of the cases (66 – 20 %) by 1 year of age. Different interventions employed to overcome CNLDO range from conservative approaches such as lacrimal sac massage to more intrusive methods such as probing with or without intubation, balloon catheterization, silicone tube intubation, and dacryocystorhinostomy (DCR). Affected children up to 1 year of age are typically treated conservatively with digital sac massage with or

without antibiotics. The purpose of this study is to evaluate the success rate of sac massage with or without instilling eye drops.

### Methods

This is a prospective study conducted at eye and child care ghaziabad from October 2017-December 2017. 72 eyes of 65 patients with CNLDO in the age group of 2-8 months were included in the study. Diagnosis of CNLDO was based on the presenting symptoms such as watering, discharge, swelling and redness near medial canthus, noticed since or shortly after birth. Patients with a minimum follow-up of 2 months from the day of presentation were included in the study. Acquired NLDO due to trauma or craniofacial anomalies, and excessive tear production from a non-CNLDO induced etiology such as allergic conjunctivitis and congenital glaucoma were excluded. Children who had undergone previous failed medical intervention or surgical procedures such as probing were also excluded. Pediatrician evaluation was done to rule out any nasal pathology. Patients with associated URTI were treated before performing the procedure. Informed consent was obtained from the parents of the patients. The children were divided into 2 groups. group 1 included 32 children and group 2 included 33 children. We studied 72 eyes, 36 in both groups. In group 1 we instructed children's parents to instill antibiotic eye drops 4 times a day and after each instillation give 5 strokes of sac massage in downward out rolling of digital finger. and in group 2 only NLD massage 10 strokes in morning and 10 strokes at bed time.

### Results

A total of 72 eyes of 65 patients, including 30 boys and 35 girls were included in the study. Unilateral obstruction was present in 56 patients and bilateral obstruction was present in 9 patients. The most common sign was epiphora with discharge followed by epiphora and swelling at the medial canthus. There was regurgitation of

mucoid /mucopurulent discharge on applying pressure over the lacrimal sac in few patients. The overall success rate of group 1 patients was 90% and success rate of group 2 patients was 60%.

### Discussion

Though it is widely known that massage of the nasolacrimal system relieves many congenital NLD obstructions during early infancy, the correct technique of massage is not properly understood by most parents resulting in a high failure rate. It serves as an effective conservative management, especially in the group with antibiotic instillation. However without antibiotic, the success rate of the procedure declines.

### References

1. Crigler LW. The treatment of congenital dacryocystitis. JAMA. 1923;81:23-24
2. Kersten RC. Congenital lacrimal abnormalities. In: Bosniak S, editor. Principles and practice of ophthalmic plastic and reconstructive surgery, Vol 2. 1st ed. Philadelphia: W.B. Saunders; 1995.
3. Macewen CJ. Congenital nasolacrimal duct obstruction. Compr Ophthalmol Update. 2006;7:79-87.[PubMed]
4. Young JD, MacEwen CJ. Managing congenital lacrimal obstruction in general practice. BMJ 1997;315:293-96.
5. Kapadia MK, Freitag SK, Woog JJ. Evaluation and management of congenital nasolacrimal duct obstruction. Otolaryngol Clin North Am 2006;39:959-77.
6. Nelson LB, Calhoun JH, Menduke H. Medical management of congenital nasolacrimal duct obstruction. Ophthalmology 1985;92:1187-90.
7. Paul TO. Medical management of congenital nasolacrimal duct obstruction. J pediatrophthalmol strabismus 1985; 22:68-70.
8. Yasuhiro Takahashi et al, Management of congenital nasolacrimal duct obstruction

- duct obstruction,21 July  
2009,10.1111/j.1755-3768.2009.01592
9. Foster JA, Katowitz JA, Heyman S. Results of dacryoscintigraphy in massage of the congenitally blocked nasolacrimal duct. *Ophthal Plast Reconstr Surg.* 1996; 12:32–7. [PubMed]
  10. Honavar SG, Prakash VE, Rao GN. Outcome of probing for congenital nasolacrimal duct obstruction in older children. *Am J Ophthalmol.* 2000;130:42–8. [PubMed]
  11. Kakizaki H, Takahashi Y, Kinoshita S, Shiraki K, Iwaki M. The rate of symptomatic improvement of congenital nasolacrimal duct obstruction in Japanese infants treated with conservative management during the 1st year of age. *Clinical ophthalmology (Auckland, NZ).* 2008;2(2):291-294.
  12. MacEwen CJ, Young JD. The fluorescein disappearance test (FDT): an evaluation of its use in infants. *J Pediatr Ophthalmol Strabismus.* 1991a;28:302–5. [PubMed]
  13. MacEwen CJ, Young JD. Epiphora during the first year of life. *Eye.* 1991b;5:596–600. [PubMed]